British Journal of Clinical Pharmacology

Br J Clin Pharmacol (2018) **84** 2499–2501 2499

REVIEW-THEMED ISSUE

The challenges of 'medical cannabis' and mental health: a clinical perspective

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Received 26 February 2018; **Revised** 6 June 2018; **Accepted** 8 June 2018

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Keywords cannabis, marijuana, mental health, risks

The use of cannabis as a medicine has a long tradition in Western medicine. It has been seen as a viable option for the treatment of various neurological and psychiatric conditions, and recently there is again interest in the place of cannabinoids in the pharmacopoeia. What has become increasingly clear, however, is these benefits need to be weighed carefully against the potential difficulty associated with herbal cannabis and cannabinoid compounds for an individual's mental health. This challenges the use of cannabis as a medication and the regulation of its prescription.

The use of cannabis as a medicine is, as already discussed in this special series in BJCP, one with a long tradition, which modern medical practice is increasingly re-examining. A wide variety of ailments has been identified as potentially ameliorable by cannabis's psychoactive constituents and there is growing interest in its use for largely neuropsychiatric conditions [1]. Unlike most pharmacotherapies that are brought to market, cannabis is already widely used in the community, despite the prohibitionist stance of many jurisdictions, for both pleasurable and 'medicinal' reasons. This makes the introduction of 'medical cannabis', a product with regulatory approval that could be prescribed, almost unique in terms of the challenges for the medical community. Exactly what is referred to as cannabis (or medical cannabis) is not always clear, with some talking about the herbal product and others a combination of psychoactive constituents of cannabis, usually tetrahydrocannabinol (THC) and cannabidiol (CBD) derived and in another form. Further complicating the issue is the relative ratio of these components found in herbal and prepared form, the total amount of THC and CBD used, the mechanism of consumption and the possible 'entourage effect'. These present both prescribing and regulatory challenges, and difficulties in understanding the evidence from both cohort and intervention trials. With this caveat, one of the significant challenges that is rarely discussed is the potential impact on mental health with the introduction of 'medical cannabis', both in terms of individual use and how societal acceptance of cannabis may increase the perceived benefits of cannabinoids in those with mental disorder. This commentary will examine the use of cannabis and mental disorder, considering the impact of a positive regulatory market, the impact on perceptions of cannabis and the challenges to individual's mental health.

That cannabis is widely used in the world is well known [2, 3], largely for its pleasurable or religious psychoactive effects. Reported rates of use vary significantly, although one in 20 people globally are reported to be illicit drug users, with cannabis being the commonest drug used. Over the last eight years, there has been a trend for increasing cannabis use, a trend mirrored only by the other prescribed and illicit psychoactive substance: opioids [4]. In North America, cannabis use reaches 10% of the adult population, with almost a quarter of high school children using cannabis. Rates in the United States, where cannabis is legal for medical purposes in 23 states, have doubled from 2001 (when cannabis was not legal anywhere) to 2013 [5]. Herbal cannabis use is also high in European and Australasian countries. This begs the question that if cannabis use is already so prevalent, has the introduction of cannabis as a medication made any difference to date, and would it be expected to in the future? The

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DOI:10.1111/bcp.13687

National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) and National Survey on Drug Use and Health (NSDUH) have been interrogated at a state level in the US to examine this question. This shows a near doubling of both cannabis use and abuse/dependence associated with state legislation allowing the use of cannabis as a medication [6]. These results have, however, been challenged, at least within a subsample, highlighting the complexity of examining this question [7].

With increasing use of cannabis in the community, and this use potentially related to the acceptance of cannabis as medicine, the mental health problems likely to be related to use may increase. These are well documented and include psychosis, anxiety disorders, cognitive problems and addiction. The latter of these is discussed elsewhere in this special section and warrants an in-depth view as potentially as many as three in ten cannabis users develop addiction issues [5].

Psychotic mental disorder is a significant mental health and public health concern. High-quality epidemiological data has outlined a partial causal pathway between early cannabis use and later psychotic mental disorder [8], albeit the pathway is complex, and the mechanism of action in individuals poorly understood [9].

This suggests that any potential for the use of cannabis as a medicine in youth and early adulthood poses potentially serious long-term psychotic risk. Cannabis is currently being investigated for childhood epilepsy and as an analgesic at all ages, and this may result in unintended mental health consequences. It is not difficult to see clinical scenarios where young patients, with pain or epileptic disorders, insist on a trial of cannabis irrespective of the risk to both person and the burden this places on society should mental disorder develop. An association between cannabis and anxiety disorders is also reported [10] and notably this is most pronounced in teenagers. This may relate to the levels of tetrahydrocannabinol in the cannabis consumed, as CBD is currently being trialled as a treatment for anxiety disorder [11]. It is possible that in both examples raised above, cannabis, whether medically prescribed or not, is acting as the 'stress' in a diathesis-stress model of mental disorder, with the categorization of what the mental disorder is (e.g. psychosis, anxiety, etc.) being defined according to the hierarchical nature of psychopathology and individual 'diathesis' [12].

The difficulty with cognitive problems putatively related to cannabis use is clarifying the nature of the cognitive issues and their potential long-term nature. These do not appear to be so closely related to younger age, but may explain a lower life satisfaction that is found with chronic cannabis use. For potential prescribers of cannabis, this presents a challenge. When considering the neuropsychiatric conditions for which cannabis may be prescribed, balancing the improvements in significant functional impairments caused by the condition being treated (e.g. spasticity, pain or seizures) with the potential for reductions in life satisfaction will prove to be a difficult balance, and one for which no current evidence exists. Ensuring close attention to functional outcomes may help to ameliorate this dilemma.

A further sociological challenge associated with cannabis as a medicine is the potential change in acceptability for use and how this may impact on mental health issues. Increasing cannabis use has been considered likely to be associated with increasingly liberal policy [13]. This is notable in its occurrence in youth, the group potentially at greatest risk from cannabis use. As cannabis dons the jacket of medical acceptability, even if it is licensed only for use in specific conditions and only in later adulthood, it may lead to increasing use in youth, with the implicit risks this provides. A further challenge may arise in those with severe mental illness, for whom cannabis significantly worsens outcome. Despite these documented poor outcomes, cannabis use in this group is prevalent and identifying cannabis as a medicine opens the door to this group arguing cannabis is 'my medicine'. Particularly in conditions like schizophrenia, where the correlations between cannabis, onset and functional impairment are clear, patients may prefer the short-term benefits of a 'high', despite these long-term difficulties. This raises the potential for the psychiatrist and other physicians to become 'gatekeepers' for cannabis use, trying to weigh the harm of prescribing cannabis to mental health patients (to ensure a safe and known product is used) against their patients sourcing illicit cannabis. This appears similar to the use of methadone for opioid dependence, though without the evidence base to support such a practice.

In short, there are multiple challenges that face clinicians and policy makers with the development of cannabis as a medication. These range from increasing use and worsening psychopathology to pervasive acceptance and use in youth. For clinicians, understanding the risks of prescribing cannabis, particularly in the younger population, is clearly important. This requires screening for risk factors for mental disorder, careful screening for addiction and close early monitoring to ensure benefits, particularly functional benefits, outweigh any mental health risk. Modelling this on current practice for psychoactive medications such as methylphenidate or methadone is an obvious place to start. This is also true in considering the minimization of diversion. Medical practitioners are likely to be those who are left managing this at the 'coal-face'; however, scientists, other clinicians and policy makers need to consider these issues in the seemly inexorable march of cannabis towards regulation as a medication globally. As this continues, the ongoing need to develop observational and interventional research remains a priority.

Competing Interests

There are no competing interests to declare.

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